

NO DRAWINGS.

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COMPLETE SPECIFICATION.

Improvements in and relating to Cleaning Preparations.

We, JEVES GROUP LIMITED formerly Jeyes Sanitary Compounds Company Limited, of River Road, Barking, Essex, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to cleaning preparations which are in the form of a powder or granular solid and which can be sprinkled into a glazed porcelain bowl containing water, such as a toilet basin, which has to be cleaned, the powder containing a chlorine-containing oxidising agent or so-called dry chlorine bleach, and/or a dry oxygen bleaching agent.

Powders of this kind are already known and represent an alternative to the more traditional nitre cake type of lavatory cleanser. However, these are essentially insoluble products of the scouring powder type which have been modified by the incorporation of a "chlorine bleach". Being based upon insoluble chemicals, these scouring powders are not particularly attractive in use and tend to cause a build-up of residues in the U-bend. Pigments have been used to impart a tint to the product under in-use conditions, but the range of perfume materials which can ordinarily be incorporated is very limited and it is difficult to secure an adequate shelf life.

It is one object of the invention to provide a cleansing preparation which incorporates an indicator of the activity of the preparation in use. Another object is to provide a solid cleaning preparation which shows less tendency to give rise to a build-up of solid matter adhering to the wall of the basin

to be cleaned. Yet another object is to provide a solid cleaning preparation having a durable and satisfactory perfume associated with it.

The invention consists, broadly, in a flowable solid cleaning preparation containing a dry chlorine bleach and/or a dry oxygen bleaching agent, hereinafter referred to as "a cleaning preparation of the type referred to", which preparation also contains a gum or resin protected indicator dye and/or a gum- or resin-protected perfume susceptible to the oxidising action of the bleaching agent.

The expression "indicator dye" means a dye which will dissolve when the preparation is mixed with water to give an initial coloration but which will bleach subsequently under the influence of the chlorine bleach. Thus, the dye acts as an indicator of the activity of the product. In addition to the "chlorine bleach", and the gum- or resin-protected dye or perfume, the preparation may contain an insoluble filler as in an ordinary scouring powder, or a soluble filler. In the latter case, it is preferred that the filler should have comparatively low density which may be achieved by spray drying. It is also preferred that the filler should act as an anti-caking agent and/or contribute towards the activity of the preparation, for example by rendering a solution thereof alkaline or by sequestering calcium and magnesium. Thus, sodium carbonate or sodium tri-polyphosphate may be employed, although more or less inert materials such as sodium sulphate may be used instead or in addition.

The dry chlorine bleaching agents may be those known in the trade as TCC, DCC, DDH, and chlorinated TSP. In addition,

[Price 1/-]

or as an alternative, a dry oxygen bleaching agent such as potassium monopersulphate may be used.

In addition to or instead of the gum- or resin-protected dye, a partially or wholly gum- or resin-protected perfume may be incorporated. By only partially protecting the perfume compound, a corresponding odour may be imparted to the preparation in the pack as well as when it is dissolved in water.

The protection of the dye and perfume (which may be mixed) by gum or resin may be achieved by spray drying with a suitable water soluble gum or resin, by *per se* well known techniques. Various gums are suitable, including gum acacia and carboxymethyl cellulose.

If desired, a wetting agent may also be incorporated.

The following examples show how the invention may be carried into effect, the parts or percentages referred to being by weight.

Example 1

A concentrated bleach was prepared, having the following formulation:—

chlorinated trisodium phosphate	70—95%
anti-caking agent	0—10%
perfume/dye (spray dried)	0.01—0.5%
surface active agent	0—5%

In this formulation the anti-caking agent could for example, be sodium chloride, micronised silica, or an aluminosilicate. For convenience the dye may be spray-dried with the perfume, using gum acacia, carboxymethyl cellulose or any other gum which can be spray-dried without loss of its water solubility. The surface active agent will normally be either anionic or non-ionic.

Example 2

A lower density bleach was prepared by mixing:

spray-dried sodium sulphate	75—95%
dry chlorine/oxygen bleach	5—20%
spray dried perfume/dye	0.01—0.5%
surface active agent	0—5%

Here the bleach may be dry chlorine bleach such as TCC., DCC., DDH., or chlorinated TSP., or an oxygen bleach such as potassium monopersulphate, or both may be used. The perfume and/or dye, and the surface active agent may be as described in Example 1.

Example 3

A high density, soluble, alkaline-base type of bleach was prepared from:—

soluble alkaline salt	65—95%	
dry chlorine/oxygen bleach	5—20%	
spray-dried perfume/dye	0.01—0.5%	
surface active agent	0—5%	
anti-caking agent	0—10%	60

The alkaline salt may for example be sodium sesqui-carbonate, or sodium carbonate monohydrate. The anti-caking agent perfume/dye or surface active agent may be as described in Example 1; the bleach may be as described in Example 2.

In each of these Examples, where an indicator dye is used, the amount will normally be such that it is readily bleached by the associated bleach without consuming a substantial proportion of the latter. A formulation in accordance with any of the foregoing Examples, affording say 2.5% available chlorine from chlorinated trisodium phosphate, in association with 0.025% of a dye such as that sold under the trade name DURAZOL Paper Blue 10 GS. (DURAZOL is a Registered Trade Mark) protected by gum acacia, will generally bleach out in a minute or so depending partly on the amount of gum, partly on the degree of dilution, and partly on the temperature.

Example 4

A high density, soluble base, acidic type bleach may be prepared as described in Example 3, but substituting a soluble acidic salt for the soluble alkaline salt. The acidic salt may for example be sodium acid sulphate or aluminium sulphate. In this case sodium chloride should not be used as anti-caking agent, but micronised silica or an aluminosilicate are suitable.

WHAT WE CLAIM IS:—

1. A flowable solid cleaning preparation containing a dry chlorine bleach and/or a dry oxygen bleaching agent and incorporating as a gum-, or resin-protected additive an indicator dye and/or a perfume susceptible to the oxidising action of the bleaching agent.
2. A cleaning preparation according to claim 1, wherein a mixture of the dye and perfume have been spray-dried with a gum or a resin.
3. A cleaning preparation according to either preceding claim wherein the gum used is acacia or carboxymethyl cellulose.
4. A cleaning preparation substantially as described in any of the foregoing examples.

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